IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Masaharu TOMOBE

Title: TELEPHONE POWER SOURCE CIRCUIT

Appl. No.: 10/081,155

Filing Date: 02/25/2002

Examiner: Walter F. Briney III

Art Unit: 2644

CERTIFICATE OF MAILING

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

I hereby certify that the following paper(s) and/or fee along with any attachments referred to or identified as being attached or enclosed are being deposited with the United States Postal Service as First Class Mail under 37 C.F.R. § 1.8(a) on the date of deposit shown below with sufficient postage and in an envelope addressed to the Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450.

1. Amendment and Reply Under 37 CFR 1.111
2. Amendment Transmittal
3. Check No. 870666 ($110) for extension of time
4. Postcard

Respectfully submitted,

October 26, 2004
Date

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Atty. Dkt. No. 072982-0236

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AMENDMENT AND REPLY UNDER 37 CFR 1.111

Mail Stop AMENDMENT
Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Sir:

This communication is responsive to the Non-Final Office Action dated June 29, 2004, concerning the above-referenced patent application.

Amendments to the Written Description begin on page 2 of this document.

Amendments to the Claims are reflected in the listing of claims which begins on page 5 of this document.

Remarks begin on page 9 of this document.

Please amend the application as follows:

Amendments to the Written Description

Please change the title as follows: -- IP TELEPHONE WITH POWER SOURCE CIRCUIT

Please amend the specification as follows:

Please amend the paragraphs numbered 4, 10 and 19 with the following rewritten paragraphs bearing the same numbers:

[0004] FIG. 2 shows the power source circuit 10 of FIG. 1 and particularly a concrete circuit configuration of the input voltage detector circuit 2 and the power source controller circuit 3. The input voltage detector 2 includes a pnp-type transistor Tr1 including a base, a collector, and an emitter, a series circuit which includes a zener diode Z1 and a ~~register~~ resistor R1 and which is connected between the input terminals 1a and 1b, and a resistor R2 connected in series between a connecting point between the diode Z1 and the resistor R1 and the base of the transistor Tr1. On the other hand, the power controller 3 includes a series connection of a zener diode Z2 and a resistor R3 between the input terminals 1a and 1b, a pnp-type transistor Tr2 including a collector, an emitter, and a base, and a resistor R4 coupled between the collector of the transistor Tr2 and the input terminal 1a. The zener diode Z2 is connected to the collector and the emitter of the transistor Tr1 at both ends. The base of the transistor Tr2 is linked to a connecting point between the zener diode Z2 and the resistor R3. The DC/DC converter 4 includes four terminals 4a to 4d. The terminals 4a and 4d are coupled with the output terminals 5b and 5a, respectively. The terminal 4c is connected via a diode 6 to the output terminal 5a. The terminal 4b is linked with the emitter of the transistor Tr2.

[0010] In accordance with the present invention, there is provided a telephone power source circuit for an internet protocol (IP) telephone connected to a network, in which a direct current with a signal is received via the network for charging an input capacitor to thereby obtain operation voltage of each constituent components of the IP telephone, comprising a direct-current to direct-current (DC/DC) converter for obtaining a voltage to charge the input capacitor, and an input current limiting ~~register~~ resistor connected to an input terminal of the

DC/DC converter for limiting the direct current inputted from the network.

[0019] FIG. 4 shows a configuration of an embodiment of the telephone power source 21 of FIG. 3. The power source 21 includes a current limiting resistor 31, a transistor (a limit removing device or a switching transistor) 32 including a collector, an emitter, and a base, a driving transistor 39 including a collector, an emitter, and a base, an input capacitor 33, a DC/DC converter 34, an input voltage sensor circuit 36, ~~a delay circuit 3~~ a delay circuit 37, and a base limiting resistor 38. The converter 34 includes a delay circuit 35. The emitter and the collector of the transistor 32 respectively connected to an end and another end of the resistor 31. The base of the transistor 32 is grounded via the resistor 38 and the collector and the emitter of the transistor 39. The converter 34 applies an output voltage via the delay circuit 37 to the base of the transistor 39. The converter 34 is connected to a connecting point at which the resistor 31, the collector of the transistor 32, and the input capacitor 33 are connected to each other. A voltage at the connecting point is applied via the input voltage sensor 36 to the delay circuit 35 of the converter 34.